

Remarks

Claims 1, 3-11, 13 and 18-21 are pending in the application. Claims 4 and 9 are allowed. Claims 18-21 have been withdrawn from consideration by the Examiner. Claims 1, 3, 5-8, 10, 11 and 13 stand rejected.

Claim rejections

Section 112

Claims 1, 3, 5-8 and 11 were rejected under 35 USC 112, 1st paragraph, on grounds that the specification lacks support for the limitation "between 140°C and 220°C." The limitation has been amended to "from 140°C to 220°C" to include the endpoints of the range. Accordingly, withdrawal of the rejection of claims 1, 3, 5-8 and 11 under 35 USC 112, 1st paragraph is respectfully requested..

Section 103

Claims 1, 5, 6, 7, 8 and 11 were rejected under 35 USC 103(a) as being unpatentable over Hidekuni et al. (JP 08-151,461) ("Hidekuni") in view of Tajiri et al. (US 5,648,027) ("Tajiri"). The Applicant respectfully traverses. Hidekuni and Tajiri cannot support the asserted rejection for at least the reason that these references do not disclose or suggest a "method of manufacturing a separator for a *solid polymer type* fuel cell comprising ... heat press forming the raw material charged into the mold into a ribbed separator at a temperature which is from 140°C to 220°C, the ribbed separator thus formed *having a property of gas- impermeability*" (emphasis added) as recited in claim 1. As observed by the Examiner, Hidekuni does not disclose a ribbed separator.

Tajiri was cited as disclosing a ribbed separator. Tajiri relates to a separator for *a phosphoric acid electrolyte cell including a porous material as an electrode material*. In the phosphoric acid electrolyte fuel cell, the porous material has a function as a reservoir of electrolytic solution and requires sufficient gas-permeability. By contrast, the ribbed separator according to the present invention serves to separate the flows of fuel gas and oxide gas between the adjacent unit cells (please see page 9, lines 23-26 of the present specification. The process of forming the separator, therefore, eliminates bubbles formed in the separator to secure gas-impermeability of the separator.

Therefore, Tajiri discloses neither a solid polymer type fuel cell, nor a separator with a property of gas-impermeability, as by contrast is required by the rejected claims.

In view of the foregoing, claim 1 is allowable over Hidekuni and Tajiri. Moreover, since they incorporate the features of claim 1 by dependency on claim 1, claims 5, 6, 7, 8 and 11 are similarly allowable over Hidekuni. Withdrawal of the rejection of claims 1, 5, 6, 7, 8 and 11 as being unpatentable over Hidekuni and Tajiri is therefore respectfully requested.

Claims 1 and 11 were further rejected under 35 USC 103(a) as being unpatentable over Kougorou (JP 590412781) in view of Tajiri. The Applicant respectfully traverses. The Examiner recognizes that Kougorou does not disclose a ribbed separator. Further, for reasons discussed above, Tajiri does not disclose or suggest a "method of manufacturing a separator for a solid polymer type fuel cell comprising ... heat press forming the raw material charged into the mold into a ribbed separator at a temperature which is from 140°C to 220°C, the ribbed separator thus formed having a property of gas- impermeability" as recited in claim 1. Accordingly, Kougorou and Tajiri cannot meet the recitations of claim 1, and therefore claim 1 is allowable over Kougorou and Tajiri. Claim 11 is likewise allowable over Kougorou for at least the reason that claim 11 includes the recitations of claim 1 by dependency thereon. Withdrawal of the rejection of claims 1 and 11 as being unpatentable over Kougorou and Tajiri is therefore respectfully requested.

Claims 1, 3, 5, 7 and 8 were further rejected under 35 USC 103(a) as being unpatentable over Kougorou in view of Tajiri, and further in view of Sandelli et al. (US 4,643,956) ("Sandelli"). Along lines discussed above, Kougorou and Tajiri do not disclose or suggest a "method of manufacturing a separator for a solid polymer type fuel cell comprising ... heat press forming the raw material charged into the mold into a ribbed separator at a temperature which is from 140°C to 220°C, the ribbed separator thus formed having a property of gas- impermeability" as required by claim 1 and consequently also by claims 3, 5, 7 and 8 dependent thereon. Sandelli does not remedy the deficiencies in Kougorou and Tajiri, also being silent as to the noted

features. In view of the foregoing, withdrawal of the rejection of claims 1, 3, 5, 7 and 8 as unpatentable over Kougorou, Tajiri and Sandelli is respectfully requested.

Claims 1, 3, 5-8 and 11 were further rejected under 35 USC 103(a) as being unpatentable over Sandelli in view of Hidekuni or Kougorou, and further in view of Tajiri. The Applicant respectfully traverses. As discussed above, none of the cited references teaches or suggests a "method of manufacturing a separator for a solid polymer type fuel cell comprising ... heat press forming the raw material charged into the mold into a ribbed separator at a temperature which is from 140°C to 220°C, the ribbed separator thus formed having a property of gas- impermeability" as required by claim 1 and consequently also by claims 3, 5-8 and 11 dependent thereon. Accordingly, withdrawal of the rejection of claims 1, 3, 5-8 and 11 as being unpatentable over Sandelli in view of Hidekuni or Kougorou is respectfully requested.

Claims 1, 3, 5-8 and 11 were further rejected under 35 USC 103(a) as being unpatentable over Kougorou in view of Tajiri and further in view of Hidekuni. The Applicant respectfully traverses. The cited references fail to disclose or suggest a "method of manufacturing a separator for a solid polymer type fuel cell comprising ... heat press forming the raw material charged into the mold into a ribbed separator at a temperature which is from 140°C to 220°C, the ribbed separator thus formed having a property of gas- impermeability" as required by claim 1 and consequently also by claims 3, 5-8 and 11 dependent thereon. Withdrawal of the rejection of claims 1, 3, 5-8 and 11 as being unpatentable over Kougorou, Tajiri and Hidekuni is therefore respectfully requested.

Claim 13 was rejected under 35 USC 103(a) as being unpatentable over Taylor (US 4,592,968) in view of Sandelli. The Applicant respectfully traverses. Taylor and Sandelli do not support the asserted rejection for at least the reason that they do not teach or suggest "completing manufacture of the separator without baking the separator" as recited in claim 13.

The Examiner recognizes the latter point, but contends that this feature would have been obvious. The Applicant respectfully disagrees. All of the art of record teaches baking the respective products described. In view of this, the claimed step of completing manufacture of the separator without baking the separator is anything but obvious. Instead, it represents a distinct, novel and nonobvious departure from the prior art. The Applicant respectfully submits that the Examiner is engaging in impermissible hindsight reconstruction based on reference to the Applicant's own disclosure. Moreover, as the Examiner's comments appear to be based on personal observation rather than documentary evidence, the Applicant respectfully requests the furnishing of documentary evidence that the claimed feature is known in the art.

Furthermore, Taylor and Sandelli fail to disclose or suggest a "method of manufacturing a separator for a *solid polymer type* fuel cell comprising ...heat press forming the raw material charged into the mold *to form a ribbed separator having a property of gas-impermeability*" (emphasis added) as recited in claim 13. Withdrawal of the rejection of claim 13 is respectfully requested for at least the foregoing reasons.

Claim 10 was rejected under 35 USC 103(a) as being unpatentable over Taylor or Sandelli in view of Hidekuni or Kougorou. The Applicant respectfully traverses. None of the cited references teaches or suggests "completing manufacture of the separator without baking the separator" as recited in claim 10. Instead, all teach away from this feature as noted earlier. Accordingly, the feature is clearly novel and nonobvious. Withdrawal of the rejection of claim 10 is therefore respectfully requested.

Furthermore, the references fail to disclose or suggest a "method of manufacturing a separator for a *solid polymer type* fuel cell comprising ...heat press forming the raw material charged into the mold *to form a ribbed separator having a property of gas-impermeability*" (emphasis added) as recited in claim 10. Withdrawal of the rejection of claim 13 is respectfully requested for at least the foregoing reasons.


Conclusion

In light of the above discussion, Applicant respectfully submits that the present application is in all aspects in allowable condition, and earnestly solicits favorable reconsideration and early issuance of a Notice of Allowance.

The Examiner is invited to contact the undersigned at (202) 220-4323 to discuss any matter concerning this application. The Office is authorized to charge any fees related to this communication to Deposit Account No. 11-0600.

Respectfully submitted,

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